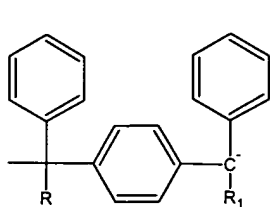
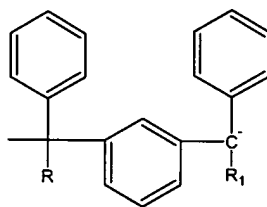


ABSTRACT

According to an aspect of the present invention, a method is provided in which a double diphenylethylene compound is reacted with a polymer that contains a carbocationically terminated chain thereby providing a 1,1-diphenylene end-functionalized chain. Subsequently, an alkylating agent is reacted with the 1,1-diphenylene end-functionalized chain, thereby providing an alkylated 1,1-diphenylene end-functionalized chain. In some embodiments, the method further comprises (a) optionally combining a 1,1-diphenylorganolithium compound with the alkylated 1,1-diphenylene end-functionalized polymer followed by (b) reacting an organolithium compound with the alkylated 1,1-diphenylene end-functionalized polymer. This provides an anionically terminated polymer, which can be used, for example, in subsequent anionic polymerization and coupling reactions. According to another aspect of the present invention, a novel polymer is provided that comprises a polymer chain, which chain further comprises the following: (a) a plurality of constitutional units that correspond to cationically polymerizable monomer species and (b) an end-cap comprising a



group or a



group, where R is a branched

or unbranched alkyl group containing from 1 to 20 carbons and R_1 is a branched, unbranched, or cyclic alkyl group or an aryl group, containing from 1 to 20 carbons. Other aspects of the present invention relate to novel copolymers that comprise: (a) a first polymer block that comprises a plurality of constitutional units that correspond to isobutylene; and (b) a second polymer block that comprises a plurality of constitutional units that correspond to hydroxyethyl methacrylate.